IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.:   09/938,874

Applicant: Jeff S. Eder

Filed: August 27, 2001

Examiner: Frantzy Poinvil

Art Unit: 3696

Docket No.:   AR - 21

Customer No: 53787

DECLARATION UNDER RULE 132

I, Rick Rauenzahn, do hereby declare and say:

My home address is 529 Calle don Leandro, Espanola, New Mexico. I have a B.S. degree in chemical engineering from Lehigh University, an S.M. degree in chemical engineering from The Massachusetts Institute of Technology and a Ph.D. in chemical engineering from The Massachusetts Institute of Technology. I have worked in the mathematical modeling field for 26 years concentrating in the disciplines of fluid mechanics, turbulence modeling, numerical methods for partial differential equations, radiation hydrodynamics, and strength of materials. I also have extensive knowledge of computer system administration, particularly for Windows-based, Linux, and UNIX systems. I have been employed by Los Alamos National Laboratory and Molten Metal Technologies for the past 25 years.

I further declare that I do not have any direct affiliation with the application owner, Asset Reliance, Inc. or with its licensee Kantrak, Inc. As described in prior declarations I have met the inventor who is the President of Kantrak.

On November 26, 2008 I was given a copy of "How to sort out the premium drivers of post-deal value" from Mergers and Acquisitions from July/August 1993, Vol. 28, Iss.1; pg. 33, 5 pgs by Daniel W. Bielinski (hereinafter, Bielinski), 'Neural Networks Enter the World of Management Accounting""; Management Accounting; Montvale, NJ; May 1995, 5 pages, by Carol Brown, James Coakley, & Mary Ellen Phillips (hereinafter Brown), pages 56, 172 and 173 from Creating shareholder value; by Alfred Rappaport, The Free Press, U.S.A. and Declaration Under Rule 132 for Application 10/287,586, dated July 21, 2008 by Dr. Peter Brous. Until that time I had not read the articles, the book pages or the declaration. On December 29, 2008 I was given a copy of U.S. Patent Application 09/938,874 until that time I had not read the application although I have read other applications that are similar including application 09/761,670, application 09/688,983, application 10/287,586 and application 10/821,504. I am totally familiar with the language of the claims and conversant with the scope thereof. I completely understand the invention as claimed.

It is my understanding that the Examiner for this application has proposed combining the teachings of Bielinski together with the teachings of Brown to replicate the neural network models developed by the above referenced application. Based on my experience and training in the field of mathematical modeling and electronic data processing, I have concluded that the proposed combination of Bielinski and Brown would destroy the ability of the Value Based Management method taught by Bielinski to function.

Understanding why the functionality of the system described by Bielinski would be destroyed requires some background. Neural networks complete their processing by using a squashing function (usually a sigmoid) that combines data inputs in a linear or non-linear fashion as best fits the data before producing an output. Squashing functions typically have output values between 0 and 1. For prediction models the output node is sometimes given a linear activation function to provide forecasts that are not limited to the zero to one range. The tree based analysis of cash flow taught by Bielinski relies on a finite number of inputs to each node of a tree. The inputs to each node are mathematically combined to produce a value that is passed on up the tree for mathematical combination in another node (Figure 2 in Bielinski confirms the linear

nature of the model). For example, Bielinski discusses breaking the operating profit margin value driver into revenue minus cost of goods sold where the cost of goods sold is further broken down into materials, human resources, technology/capital and other (see diagram below). Bielinski labels these latter four cost categories operational value drivers.

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                              Value
          _____|_____
          |                                    |
    Cost of Capital                        Cash Flow
                        _____|_____
                        |                                            |
                Operating Profit Margin                     Capital Investment
          _____|_____
          |                            |
       Revenue                  Cost of Goods Sold
                        _____|_____
                        |         |          |       |
                  Materials  Human Resources  Technology  Other
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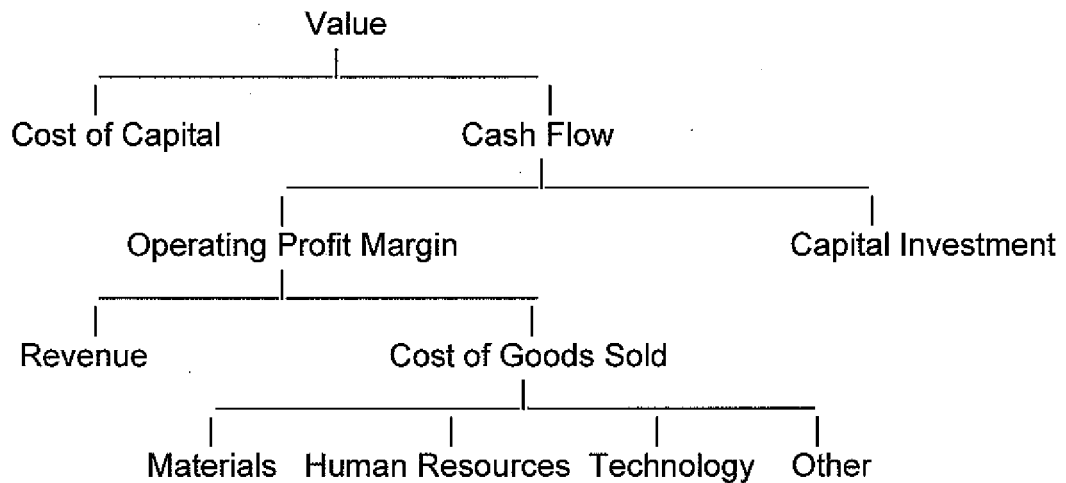
Replacing all or part of the tree with a neural network would destroy the ability of the tree to complete the processing required for the VBM analysis in a number of ways. Replacing part of the tree shown above with a neural network would destroy the ability to complete required processing. The reason for this is that the output value from a neural network (generally between 0 and 1) could not be used to produce the proper input value for the node at the next level as required to complete the mathematical processing of the tree. For example a neural network node could not subtract cost of goods sold from revenue to generate operating profit margin. Replacing the entire tree shown above with a neural network would exacerbate this problem as each intermediate node of the tree would receive only inputs between zero and one that could not combine to produce the required output values for use as inputs to higher level nodes. If the cash flow tree shown above was entirely replaced by a neural network where lower level nodes became nodes in hidden layers within the network, then the same problem with output values would prevent proper functioning at higher level nodes and additional problems would be created. One of these additional problems would be that the user would lose his or her ability to select the inputs to a node because neural networks determine the combination of inputs that are best suited

to produce output values for the next layer in the network during training. The user would also lose the ability to determine the number of nodes and their relationship for similar reasons. In all cases discussed above, the assumption of linearity that is implicit in the use of a tree could also be violated by substituting a neural network for any part of the tree.

Because the lowest level of the Value Based Management analysis method taught by Bielinski contains sub components of value such as production labor and material cost, the Bielinski model also teaches away from the modeling method disclosed in application 09/938,874 which has value drivers for elements of value at the lowest level, elements of value at the second level and subcomponents of value at the third level.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

Signed,

Rick M. Rauenzahn
Date: January 4, 2009